

# **EXHIBIT E**

is, and formulate a treatment plan. We've got to be careful, though, we don't want to make assumptions about the individual. That's why you want to dig deeper and ask questions so that you could have a better understanding and a better outcome.

### How do you locate culturally sensitive doctors that diagnose and treat ADHD?

Well, the biggest thing that you could do is make sure that you research the information yourself. Most doctors do not have a problem with an individual doing research. Now, every once in a while, people will be stuck just knowing that Google is a better doctor than the person. "The last twenty minutes I spent on Google is worth the last twenty years that he spent in school," but we've got to make sure we have the right perspective. An educated individual honestly tells me that they're interested in their care, all right? So, the better you are informed, the more in-depth conversation that we can have. We need to be informed as much as we can.

If you feel like the doctor is not getting it, and not getting you and not understanding you, let the doctor know. That's not a tragedy that I missed something that I should have known. Let the doctor know, "As a woman, I feel like you're not getting what I'm saying when I talk about my trauma and dealing with my husband." And for me, if you tell me that, I'm not mad about it; I'm like, "Please let me know, because this may be the breakthrough we need to do in order for you to get better." Most doctors are going to be okay with you sharing information or letting them know, and if you let me know if I have a blind spot, I want to plug the blind spot. There's no such celebration of staying blind.

Very few doctors would, I would say, even argue with you that, "I don't think you're seeing my issue with race and how it's impacted me." I don't think any are going to say that... No, there will be somebody. But the greater majority are not going to say, "No, we're going to disqualify race today. Race doesn't matter to you or me or your diagnosis of this situation." If you have a doctor that said that you definitely need to keep it moving. But most are going to be very interested.

### According to research, minority patients benefit from having minority doctors, but there is also a shortage of Black doctors in America. Realistically, what are the chances of being cared for by a Black physician, and should it really matter if the provider is of another race or ethnicity?

Anywhere from 2% to 4%, sometimes around 5% of psychiatrists are Black, realizing that the American population is about 13% Black. Every Black person will not be able to get in to see a Black psychiatrist. Like they have food deserts, you've got Black psychiatry deserts where there is just no one there, or at least no one knows how to find them there. If you know a Black doctor, ask another Black doctor, even if they're of another specialty, there

are medical societies. Normally it's more or less word of mouth. Google "Black psychiatrist" in a particular area. CHADD has a website. Psychology Today is a very good website that allows you to pick race, area, city, zip code, and things of that sort. Now, at the same time, that does not mean that your doctor in front of you is not doing an excellent job. You may need to do work with the person that you're with, and most people are professionals who are going to try to do their best. If there's something that they're missing, they want to know. If you're getting excellent care, I would not recommend switching your doc if you're getting excellent care. If you've got questions about it, then research, read, and you may even want to get a second opinion, but make sure that you reach out and find someone, even if you can't find someone Black.

### What advice do you have for Black adults who are newly diagnosed?

For those who are newly diagnosed: education, education, education. The more you know about your diagnosis, the more you do more introspection and understanding of yourself, the better for everybody. That's better for you, and so you know what's going on, but it also helps you be able to communicate with your doctor better. If you know more about your diagnosis, more about the symptoms, as much as you know about the medications, that's better for the doctor because we have a higher level of dialogue, and you can get to optimal functioning.

### Is there anything else you would like to say before we end?

So far as the African-American community, I would say the biggest issue that we tend to have is a lack of knowledge, and the importance of treatment, how it affects you through childhood all the way through adulthood, and how we all can get better. Knowledge is key. I appreciate you today for bringing that knowledge to the front. **A**



**Napoleon B. Higgins, Jr., MD**, is a child, adolescent and adult psychiatrist in Houston, Texas, and owner of Bay Pointe Behavioral Health Services and South East Houston Research Group. He is the president of the Black Psychiatrists of Greater Houston, past president of the Caucus of Black Psychiatrists of the American Psychiatric Association, and past president of Black Psychiatrists of America. The coauthor of a number of books, including *How Amari Learned to Love School Again: A Story about ADHD*, Dr. Higgins also specializes in nutrition and health to improve his patients' mental and physical lives. He has worked with countless community mentoring programs and has special interest in trauma, racism, and inner-city issues and how they affect minority and disadvantaged children and communities.



**Melvin Bogard, MA**, is CHADD's director of multimedia content development. He is passionate about supporting and empowering marginalized communities, fighting for social justice, and reducing ADHD stigma by leveraging social media platforms as a conduit to learn and meet these communities' needs and distribute resources.

# HEALTHCARE DISPARITIES & ADHD

Allison Gornik, PhD, and Rod Salgado, PhD

**W**HILE ADHD is one of the most prevalent neurodevelopmental disabilities, many individuals are faced with difficulties in accessing appropriate diagnostic and treatment services. Accurate diagnosis and treatment of ADHD can be challenging due to co-occurring conditions or behavioral problems, as well as inconsistencies in reported ADHD symptoms across different settings.

Disparities in ADHD diagnosis and treatment have long been documented, and trends in research suggest links to many factors, including geographic, economic, and demographic. Complicating matters further, these variables rarely exist in isolation, and, together, these barriers may make accessing appropriate ADHD services even more difficult.

While not exhaustive, this article will review common challenges to ADHD services in the hopes that, by coming to a shared understanding, providers, caregivers, and advocates can continue working collectively to reduce barriers and disparities.

## Race and ethnicity

Racially and ethnically diverse children are often less likely to receive an ADHD diagnosis and related treatment, compared to their White counterparts. Notably, ADHD service discrepancies for racially and ethnically diverse individuals can occur throughout the lifespan, beginning in early childhood, and can occur regardless of the severity of symptoms. Moreover, research has highlighted disparities across multiple racial and ethnic minority groups (Latinx, Black, Asian, and Native American), and even when accounting for other characteristics (such as socioeconomic status). While some studies suggest the racial disparity gap may be closing in ADHD diagnosis, ADHD treatment disparities remain largely unchanged.

Several explanations have been offered to explain these differences in service delivery, including inconsistencies in behavioral ratings and historical racism in healthcare.

What many of these explanations share, however, is the idea that adults working with racially and ethnically diverse children are susceptible to implicit biases and may therefore misinterpret ADHD symptoms. In other words, since ADHD diagnostic services and treatment are behaviorally determined, it stands to reason that they are influenced by our own cultural expectations for behavior (such as what is labeled as a “problem” in a household or classroom), assumptions, and personal worldviews.

## Socioeconomic status

Socioeconomic status (SES) is oftentimes used as an umbrella term to refer to several factors (income, education, insurance, financial burden) that can impact ADHD service access in several unique ways. First, as one may expect, lower SES may result in lower rates of ADHD diagnosis and related services. Specifically, insurance (type and adequacy of coverage), as well as limited access to quality providers, often dictate who can be seen and why, before individuals and families even have the chance to voice their concerns.

Interestingly, SES has also been linked to overdiagnosis and overtreatment of ADHD for children from both higher and lower SES backgrounds. Notably, however, the mechanisms driving these disparities are likely distinct. For example, in high SES populations, overdiagnosis and treatment may be the result of increased resource access, as well as ease in navigating medical systems (being able to seek second opinions, having prior knowledge and familiarity with ADHD). In contrast, the overdiagnosis and treatment of ADHD in lower SES populations may be explained by a lack of quality care. Specifically, the increased risks of behavioral problems and co-occurring conditions linked with lower levels of SES (socioemotional or behavioral challenges due to food deserts, insecure housing, exposure to trauma, etc.) may require careful differentiation between ADHD and other concerns that, due to barriers to quality care, may not be available and lead to false-positives.





## Gender and sex

The longstanding gender-based stereotype of the “high energy and disruptive boy” with ADHD continues to influence which children get referred by parents and teachers for further evaluation.

While girls can certainly have both inattentive and hyperactive/impulsive symptoms, they tend to present with more inattentive symptoms compared to boys. Also, their hyperactive and impulsive symptoms tend to be less disruptive than boys; for example, girls may be overly talkative and interrupt others as opposed to having difficulties keeping their hands to themselves or trouble staying seated. As a result, girls may fly under the radar as their struggles with distractibility, disorganization, daydreaming, and lack of motivation/effort are not thought of as symptoms of ADHD.

Girls with ADHD also tend to have co-occurring internalizing problems like anxiety or depression, which can be less obvious to others, and they often try to compensate for or hide their struggles from others. When they do get evaluated, those internalizing symptoms can get misinterpreted as the primary problem, and the underlying ADHD can get overlooked. This is true for both girls and women.

In adulthood, women often face significant societal pressure and gender role expectations to be the CEOs of their households, family, and children’s lives. Women with undiagnosed ADHD may be more likely to attribute challenges they face in juggling all of their responsibilities as a moral failing instead of a neurodevelopmental difference, which can profoundly impact their sense of self and self-worth. Furthermore, during the transition to menopause, symptoms of ADHD that may have previously been less noticeable or impairing can increase as hormones fluctuate.

## Age

Roughly two-thirds of youth diagnosed with ADHD go on to continue having ADHD symptoms that are impairing in adulthood, with the National Institute of Mental Health (NIMH) finding the lifetime prevalence of ADHD in US adults (age 18-44) to be 8.1%. Unfortunately, there is far less attention given to identifying and providing services for adults with ADHD compared to children.

As discussed in CHADD’s ADHD Public Health Summit 2019 white paper, several factors contribute to age-based disparities for adults with ADHD:

- First, because ADHD was perceived for a long time to be a disorder that is outgrown, most professional organizations that produce national diagnostic and treatment



guidelines are child-focused (for example, the American Academy of Pediatrics and the American Academy of Child & Adolescent Psychiatry).

- Second, many healthcare providers receive limited training about what ADHD may look like over the life course (see sidebar), and may not assess for symptoms of ADHD unless it is brought up.

- Third, many adults with ADHD also experience mental health concerns, sometimes as a consequence of their ADHD symptoms, like depression, anxiety, and substance use. Too often, those other concerns might be seen as the primary problem (instead of their ADHD).

People diagnosed with ADHD in adulthood may regret not being diagnosed in childhood, and some adults wonder if appropriate treatment earlier on could have prevented problems in their education, work, and relationships with others. Some undiagnosed adults first consider they may have ADHD, too, only after their child has been diagnosed.

Just like kids with ADHD, adults with ADHD are more likely than adults without ADHD to experience difficulties in executive functioning (planning, organizing, getting started, keeping track of details), work settings, and in relationships with peers and families. A diagnosis can offer an explanation for these difficulties, and just like for children, stimulant medication is the first choice medication treatment for adult ADHD.

## Urban versus rural access to care

Despite the need for all youth with ADHD to have support from the medical system and in school, there are significant disparities in access to services between rural and urban children. In rural settings, parents of kids with ADHD may face barriers due to lack of access or availability of services within their community, long distances required to travel to receive services, and challenges in affording services that are not readily available.

Based on the most recent National Health Interview Survey by the US Centers for Disease Control and Prevention, children who live in rural areas—compared to urban areas—are more likely to have received a diagnosis of ADHD (11.4% of children in rural areas, compared to 9.2% of children in urban areas). The same survey also suggests kids who live in rural areas are significantly less likely to have seen a mental health professional, therapists (speech, physical, occupational, respiratory), or to have had a well-child check-up visit in the past year. School is also impacted, with children living in

## Adult ADHD Symptoms

**S**YMPTOMS OF ADHD in adults can look different than in kids and adolescents. The Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist is freely available online. Check out the first six of the eighteen-question checklist, where answering four or more of these questions as “often” or “very often” is highly consistent with a diagnosis of ADHD:

1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?
2. How often do you have difficulty getting things in order when you have to do a task that requires organization?
3. How often do you have problems remembering appointments or obligations?
4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?
5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?
6. How often do you feel overly active and compelled to do things, like you were driven by a motor?

rural areas and with a developmental disability (such as ADHD) being less likely to receive early intervention services or special education services than children with a developmental disability in urban areas.

### What to do?

Unfortunately, these disparities are longstanding and many reflect the history of how our society has developed over time, which makes them hard to change quickly. But there can be movement. Working for change can (and, ideally, is) both an “internal” and “external” process:

- *Internal*, such as through gentle, non-defensive acknowledgement and processing of your own experience—what aspects of ADHD diagnosis, intervention, management, and/or support have been especially hard or difficult? What has been easier? Are there system- or policy-level disparities, some of which (but certainly not all) are highlighted above, to consider? Are there disparities you want to learn more about? Two good starting points can be found on the CHADD website: The section on diverse populations (<https://chadd.org/diversity/>), which provides information about ADHD specific to Black, Hispanic, and military communities, as well as the section on women and girls (<https://chadd.org/for-adults/women-and-girls/>), which provides information about ADHD specific to girls and women.

- *External*, such as working for positive change outwardly, through advocacy in local government, school boards, or the state legislature. While this can sound intimidating, CHADD has an excellent advocacy manual to help get you started; find it at <https://chadd.org/policy-positions/>. Speaking up, sharing accurate information, and engaging in conversations with those around you helps to raise awareness. **A**



**Allison Gornik, PhD**, received her bachelor's degree from New College of Florida and her master's and doctoral degrees in clinical psychology from Michigan State University. She completed an APA-accredited internship in child clinical and pediatric psychology at Children's National Hospital in Washington, DC, prior to fellowship. Dr. Gornik is currently a postdoctoral fellow in child clinical psychology at the Kennedy Krieger Institute. In a research context, Dr. Gornik is interested in multi-method, multi-informant assessment in identifying predictors and distal outcomes of children's change over time, particularly concerning change in internalizing and externalizing problem behaviors. In addition, she is interested in informant discrepancies between children's, parents', and teachers' perceptions of children's experiences and internal states.



**Rod Salgado, PhD**, received undergraduate degrees in psychology and Spanish as well as a master's degree in special education from the University of Wisconsin, Madison. He then went on to receive a PhD in school psychology from the University of Oregon. Dr. Salgado completed an APA-accredited predoctoral internship in behavioral health psychology with the Hawaii Psychology Internship Consortium. He is currently a postdoctoral fellow in child clinical psychology at the Kennedy Krieger Institute. His research interests include health and diagnostic disparities for children with disabilities and their families as well as access to culturally appropriate treatment and services.

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# Tackling Myths and Misinformation

Gina Pera interviews Rahn Bailey, MD, FAPA

**RAHN KENNEDY BAILEY'S TRAINING AND PRACTICE** as a forensic psychiatrist introduced him to the real-world costs of undiagnosed ADHD.

Forensic psychiatry refers to using one's medical training or knowledge in psychiatry to solve a legal question. Such specialists might write a report about an employee who is disabled, deal with a family that is challenging a loved one's mental competency, or testify in court as to someone's mental condition. Bailey, however, also worked and served in settings where children were in trouble, such as juvenile detention centers and school systems. As he grasped the extent of the problem with underdiagnosed ADHD not only with children but also adults, he devoted his energies to advocacy.

The forty-five-year-old physician currently serves as chair and executive director of the department of psychiatry and behavioral sciences at the School of Medicine of Meharry Medical College in Nashville, Tennessee. A member of the administrative council of the American Academy of Psychiatry and Law and of the professional advisory board of CHADD, Bailey is also a recognized leader in the National Medical Association. The NMA's mission is to "advance the art and science of medicine for people of African descent through education, advocacy, and health policy to promote health and wellness, eliminate health disparities, and sustain physician viability."

Between sessions at a conference, Bailey found time to talk with us about his work and, in particular, his interest in ADHD.

**When you were a child, did you ever imagine growing up to be a psychiatrist?**

I always wanted to be a doctor. But I was a little afraid to say it [while I was] growing up. There was always a risk of being teased, and it's such a long-term project. But I'm happy I stayed with it because I definitely enjoy my job.

**What do you find is the most rewarding aspect of your work?**

No doubt about it: Treating ADHD is one of the better things we do in psychiatry, because you can see results fast. With children who have been sanctioned at school and are skating on thin ice, you can definitely help them turn their lives around.

Sometimes it does require the skills of a

good courtroom attorney, though—it's as though you're arguing your case to some parents. They might be skeptical and unsure, but if you can make a solid case about therapy and medication management and the child does better, then you win friends for life. It's extremely rewarding.

**Both your parents were teachers. Can you describe their influence on you?**

Being a teacher is one thing. Being an *elementary* school teacher, you really have your job cut out for you in helping to mold a child's future. Moreover, when your schoolteacher parents are regularly seeing children who are doing the right thing or the wrong thing, they are geared towards reminding you of the right path on a regular basis.

**When did you first learn about ADHD—during your training as a psychiatrist?**

Actually, I didn't learn about ADHD until December 2004, years after my medical residency.

I was involved in the National Medical Association as chairman of psychiatry, and I frequently spoke on psychiatric issues that deal with the African-American community. In 2004, I was asked to speak on what the research told us about African Americans and ADHD. When I reviewed the literature, I was surprised to see how little data existed. That ignited my intense interest, and I started speaking on this topic to national organizations such as the Urban League and various psychiatric organizations nationwide.

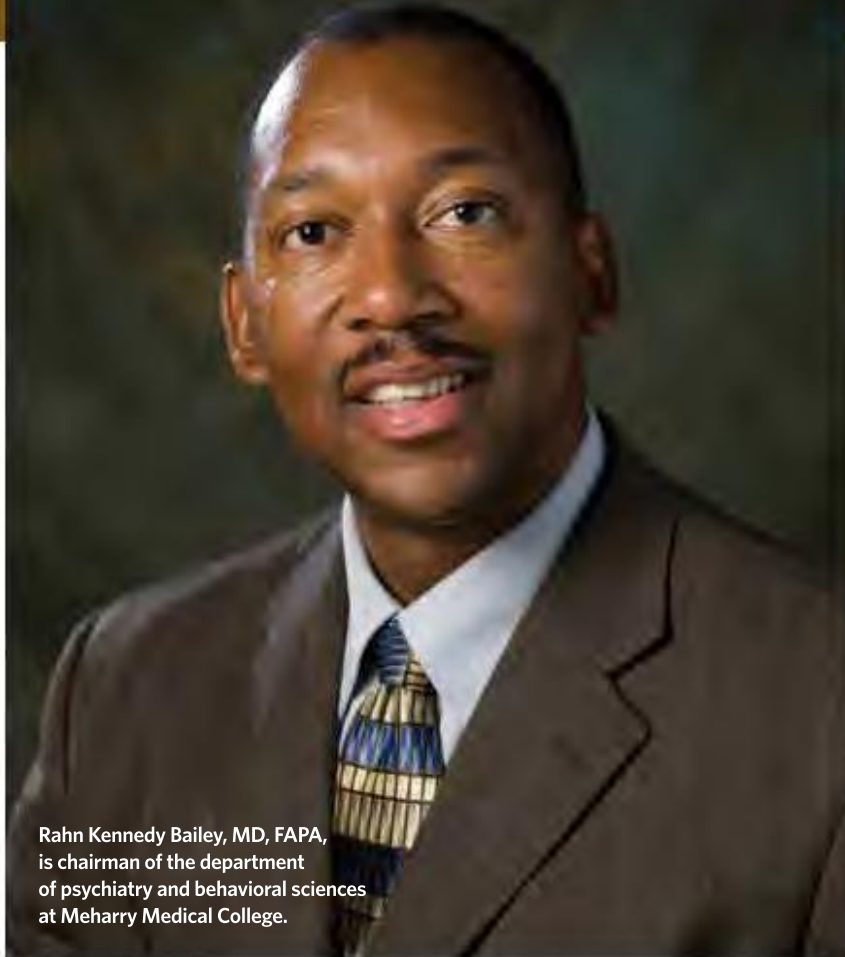
**Through your forensic work, you saw the connection between untreated ADHD and children who found themselves in juvenile detention centers and later even in prisons or jails. From there, you saw the larger issue with psychiatric illnesses among the incarcerated in this country?**

Exactly. Most of us are aware that a record number of Americans are incarcerated today. It's a nightmare from a public-policy perspective. Clinicians don't see it moving in the right direction, either, because many of these people continue to suffer from untreated psychiatric conditions.

It often happens in this country that we try to handle clinical issues with non-clinical solutions. We are increasingly incarcerating persons with mental illness; often these are people who just don't have a good ability to handle themselves. That's a prime reason why our criminal-justice system is not working.

When it comes to ADHD in particular, one of the chief diagnostic criteria is impulsivity, and impulsivity can manifest

*San Francisco-based journalist Gina Pera is the author of Is It You, Me, or Adult ADD? Stopping the Roller Coaster When Someone You Love Has Attention Deficit Disorder (1201 Alarm Press, 2008). For the past decade, she has written about adult ADHD while also advocating for better awareness and treatment standards. Pera is a member of the editorial advisory board of Attention magazine.*



Rahn Kennedy Bailey, MD, FAPA, is chairman of the department of psychiatry and behavioral sciences at Meharry Medical College.

in many ways that will land a person in trouble. For example, there is the urge to shoplift or break into a store but little or no tendency to think of consequences.

**Despite the well-documented risks of undiagnosed ADHD, misinformation persists. Have you encountered this in your practice and your advocacy work?**

Yes, there's quite a bit of propaganda around ADHD, particularly the myth that ADHD is overdiagnosed and many children are placed on medication unnecessarily.

If I had a nickel for every parent who comes to my office and says, "The school won't let my child come back without a diagnosis, but there's nothing wrong with my child. This ADHD is overdiagnosed! I had the same problems at that age." Then I ask a few questions and I learn that there were lapses in some of these parents' own academic progression, attributable at least in part to their own ADHD.

It's hard, though, to tell someone who is forty or fifty years old that "maybe you

### **"Stigma and propaganda hit some communities harder than others."**

had some form of cognitive disorder when you were in school and it *did* have some impact on you, but you never knew it because it was *underdiagnosed*." It's difficult to say this to someone who's had some setbacks in life—perhaps dropping out of school or doing time in jail.

**Research indicates that African-American children are less likely to be diagnosed with and treated for ADHD than are white children with similar levels of symptoms. Yet, some believe the exact opposite: that African-American children are disproportionately diagnosed with ADHD. How do you explain this misperception?**

Stigma and propaganda hit some communities harder

than others. One reason I spend a good deal of time educating in the African-American community about ADHD is that I was surprised to see the sheer number of people affected by it as well as the variety of settings where this is evident.

For example, African-American children are over-represented in remedial education as well as in jails and prisons. Clearly, unless you want to accept that African-American children in general simply don't do as well in school, it's important to consider untreated cognitive disorders.

Of course some simply don't want to hear about ADHD or any other diagnosis. They might say, "I'd rather be bad than mad." That is, some people see less stigma in the legal option than in the psychiatric one. Of course, this is true not only in the African-American community.

Another factor is that [anti-psychiatry groups] have been geared to destroy psychiatry, and the groups have set a stronghold in the African-American community. [They] find one person who dramatically tells about his or her one bad experience with psychiatry, whereas clinicians and scientists refer to peer-review studies, based on dozens and hundreds of patients and the structure of the data set.

Think about it: If someone stands before a group of people and rants about cancer being a hoax to people who've lost a loved one to cancer, that speaker will not be given the time of day. But when it's ADHD, many people don't *think* they know anyone who has it. And certainly they don't associate anyone's death to it, even though ADHD is associated with higher risk of injury from car accidents and so on. ●



✓ 3. The patient whose cardiac function is illustrated most likely has which of the following?

- A) Arteriovenous malformation
- B) Cardiac tamponade
- ☒ C) Congestive heart failure
- D) Cor pulmonale
- E) Restrictive cardiomyopathy

Correct Answer: C.

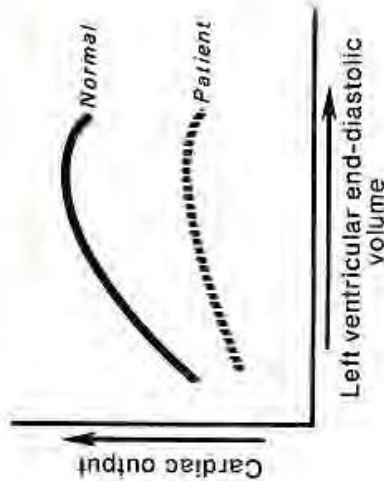
The Frank-Starling mechanism describes the phenomena by which cardiac output is dependent on the amount of cardiomyocyte fiber stretch prior to contraction, as represented by the left ventricular end-diastolic volume. A greater pre-contraction stretch results in a greater force of contraction (to a point), and the relationship is demonstrated by Frank-Starling curves. A given Frank-Starling curve applies for constant afterload and inotropy. Changes in afterload and/or inotropy shift the curve up or down. This patient has a Frank-Starling curve that is shifted down, indicating that for a given preload, there is reduced cardiac output relative to normal. This may occur in decreased inotropic states such as congestive heart failure, with the administration of negative inotropes, or in the setting of increased afterload. The curve shifts up in positive inotropic states and/or with decreased afterload.

Incorrect Answers: A, B, D, and E.

Arteriovenous malformation (Choice A) results in low-resistance, high-volume flow of blood from the arterial to the venous system with greatly increased venous return. The increase in preload causes a greater distension in the cardiomyocyte fibers at the end of diastole, which results in increased cardiac output per the Frank-Starling relationship.

Cardiac tamponade (Choice B) result in decreased ventricular filling because of compression of the heart by fluid in the pericardium. In the absence of other factors affecting afterload or cardiac contractility, the Frank-Starling curve would not be depressed.

Cor pulmonale (Choice D) describes right ventricular failure resulting from chronic pulmonary hypertension. Left ventricular contractility and afterload are not affected, and the Frank-Starling curve for the left ventricle would not shift.





- ✓ 4. A 27-year-old woman delivers monozygotic twins at 34 weeks' gestation. The larger twin has a hematocrit of 68%; the smaller twin is pale and has a hematocrit of 25%. Which of the following is the most likely explanation for these findings?

- A) Amniotic fluid leak across intervening membranes  
 B) Artery-to-artery chorionic surface anastomoses

C) Chorionic-subchorionic dissection

D) Fetalitis

E) Renin-angiotensin-aldosterone

F) Oligohydramnios

Correct Answer: B.

Twin-twin transfusion syndrome (TTTS) and twin anemia polycythemia sequence (TAPS) are complications of monochorionic twin gestation. TTTS occurs because of the formation of arteriovenous anastomoses in the chorion of the placenta that allow blood to pass from one fetus to the other. Less commonly, it can also involve the formation of artery-to-artery chorionic surface anastomoses. It typically presents on prenatal ultrasound with unequal amniotic fluid indices between the two amniotic sacs. It can also present with anemia of one fetus and polycythemia of the other fetus when chronic, which is referred to as TAPS. Monochorionic twin gestations are typically monitored with serial ultrasounds to watch for the development of these conditions, as they have a high morbidity and mortality. Ultrasound findings also include discrepancies in nuchal translucency and crown-rump length, and abnormal ductus venosus flow. Inequalities in amniotic fluid distribution are caused by relative hypovolemia of one fetus, with resultant activation of the renin-angiotensin-aldosterone system and consequent oliguria. In contrast, the hypervolemia of the other twin causes release of atrial natriuretic peptide, which results in diuresis and relative increases in the amniotic fluid index. Complications of this syndrome also include congenital anatomic abnormalities, hydramnios fetalis, heart failure, and growth restriction. Options for management include laser ablation of the anastomotic vessels, amnioreduction, and/or selective fetal reduction.

Incorrect Answers: A, C, D, E, and F.

Amniotic fluid leak across intervening membranes (Choice A) could lead to oligohydramnios in one fetus and polyhydramnios in the other fetus if the movement of fluid was unidirectional. However, movement of amniotic fluid from one fetus to another would not cause discordant hematocrit values in the newborns.

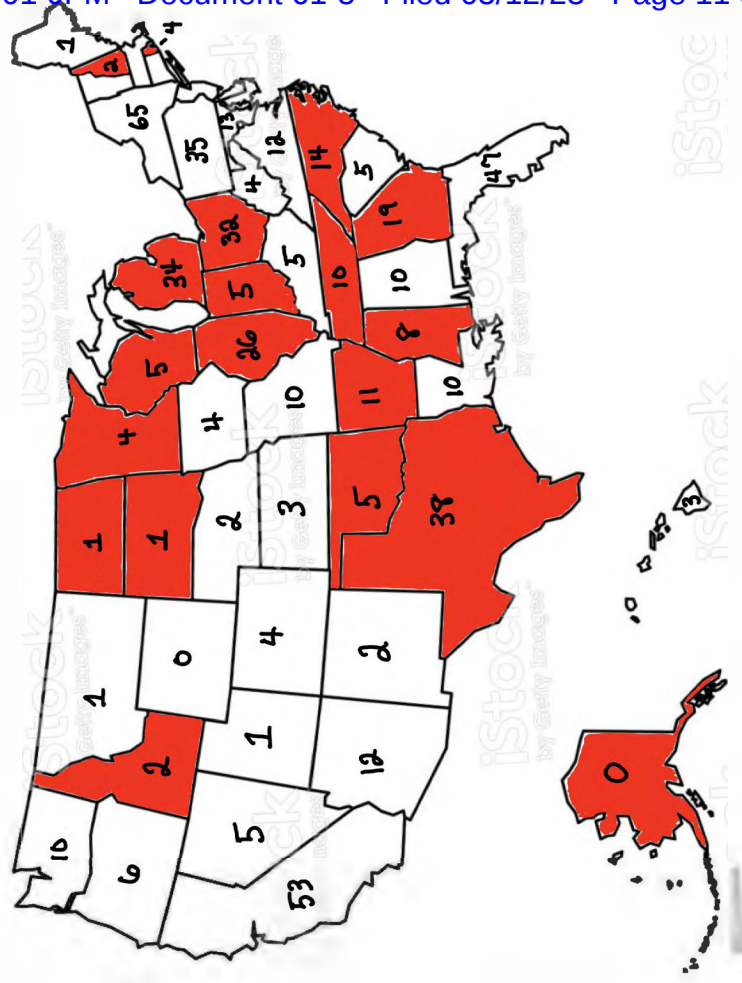
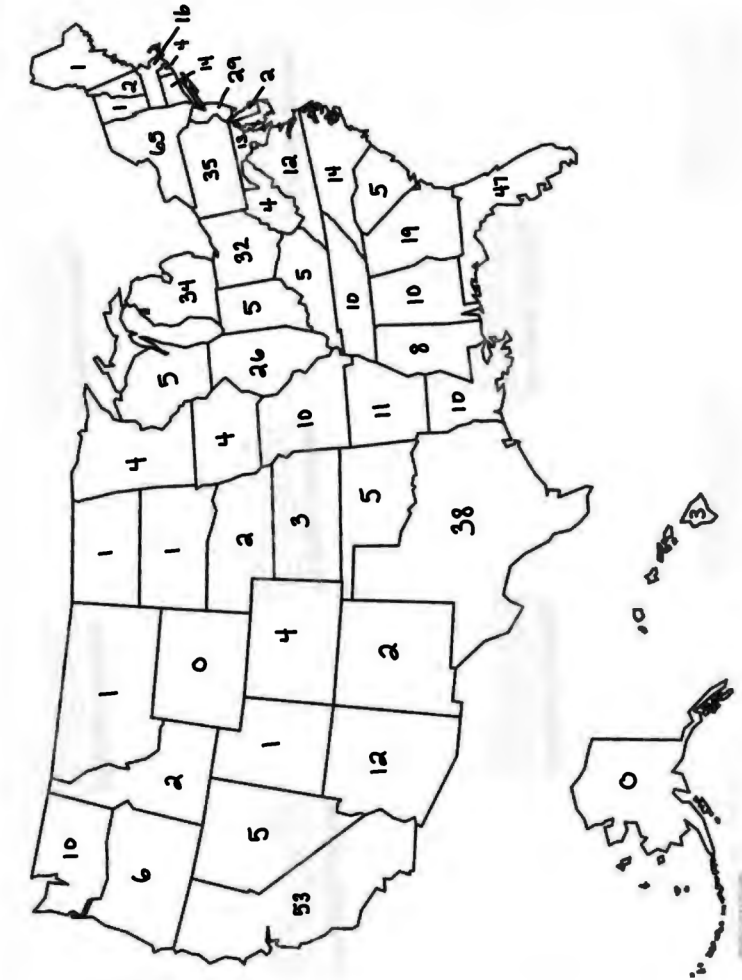
Chronic abruptio placentae (Choice C) presents with intermittent vaginal bleeding, oligohydramnios caused by placental insufficiency, and fetal growth restriction. As monozygotic twins share a placenta, chronic abruptio placentae would be expected to affect both fetuses similarly.

Funisitis (Choice D) is an infection of the umbilical cord that occurs in the setting of chorioamnionitis. Chorioamnionitis is a bacterial infection of the fetal membranes that most commonly occurs with premature or prolonged rupture of membranes. Funisitis would not cause an alteration in hematocrit concentrations in the newborns.

# Internal Medicine

Residency Programs: 618

Prohibited Programs: 221



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